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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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HANSRA PATENT SERVICES
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EXAMINER

DAVIDSON, DAN

ART UNIT PAPER NUMBER

2651

DATE MAILED: 04/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/058,586

Applicant(s)

ASGARI ET AL.

Examiner

Dan I Davidson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-65 and 67 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-61 and 65 is/are allowed.
- 6) ☒ Claim(s) 62-64, 67 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

1. The amendment filed December 13, 2004 has been received and has been made of record. An Office Action in response to the above amendment follows.
2. Claim 66 has been canceled by the instant amendment.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 62-64 and 67 are rejected under 35 U.S.C. 102(b) as being anticipated by Hetzler et al (US 6,137,644 A).

Re claim 62; Hetzler et al disclose a data storage device comprising a plurality of pairs of storage media surfaces and transducer heads, each transducer head for recording on and playback of information from a corresponding storage medium in multiple zones (Fig. 4; col. 6, lines 60-65), and a controller that controls the heads for reading and writing data on the media surfaces, the controller being programmed to write data in the multiple zones (inherent; must be present), wherein: the multiple zones on each storage media are arranged as concentric zones, each zone having an inner and an outer boundary at different radial locations on the storage media (Fig. 4, 42), such that each storage media includes the same number of concentric zones as other storage media in that data storage device, wherein the boundaries of radially similarly situated zones on all the storage media in that data storage device are at the same

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radial locations (col. 9, lines 6-18; similarly situated zone boundaries can be at the same radial location when track pitch or number of ECC bytes varied)

Re claim 63; Hetzler et al disclose that radially similarly situated zones on all the storage media include the same number of concentric tracks (true if ECC bytes varied).

Re claim 64; Hetzler et al disclose that at least a number of radially similarly situated zones on all the storage media include different number of concentric tracks (true if track pitch varied).

Re claim 67; Hetzler et al disclose that each storage media includes a sequence of concentric zones, such that the boundaries of at least a number of sequentially similarly situated zones on different storage media in that data storage device are at different radial locations (see Fig. 4), wherein at least a number of sequentially similarly situated zones on all the storage media include different number of concentric tracks (this results when the zone boundary locations are varied and the track pitch is constant).

Allowable Subject Matter

5. Claims 1-61 and 65 are allowed over the prior art of record.

Re claims 1, 33, and 36; the prior art of record, and in particular Ng et al (US 6,182,250 B1), fails to teach or suggest for multiple data storage devices, based on performance measurements of each head in a sample number of storage devices at one or more read/write frequencies per zone: selecting a group of read/write frequencies, two or more read/write frequencies per zone, and allocating one or more of

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the heads in each of the multiple data storage devices to each frequency in the group of frequencies per zone.

Re claim 17; the prior art of record, and in particular Ng et al (US 6,182,250 B1), fails to teach or suggest for multiple data storage devices, based on performance distributions of the heads in a sample number of storage devices at each zone for a target metric: selecting a group of read/write frequencies, two or more read/write frequencies per zone, and allocating one or more of the heads in each of the multiple data storage devices to each frequency in the group of frequencies per zone.

Re claim 23; the prior art of record, and in particular Ng et al (US 6,182,250 B1), fails to teach or suggest for multiple data storage devices, based on performance measurements of each head in a sample number of storage devices at one or more read/write frequencies per zone: selecting a group of read/write frequencies, two or more read/write frequencies per zone, and for each zone allocating an integral number of heads to each of the frequencies for that zone to satisfy a constraint.

Re claim 39; the prior art of record, and in particular Ng et al (US 6,182,250 B1), fails to teach or suggest for a data storage device, based on performance measurements of each head in a sample number of storage devices at one or more read/write frequencies per zone: selecting a group of read/write frequencies, two or more read/write frequencies per zone, and allocating one or more of the heads in the data storage device to each frequency in the group of frequencies per zone.

Re claim 51; the prior art of record, and in particular Ng et al (US 6,182,250 B1), fails to teach or suggest for a data storage device, based on performance distributions

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of the heads in a sample number of storage devices at each zone for a target metric: selecting a group of read/write frequencies, two or more read/write frequencies per zone, and allocating one or more of the heads in each of the multiple data storage devices to each frequency in the group of frequencies per zone.

Re claim 56; the prior art of record, and in particular Ng et al (US 6,182,250 B1), fails to teach or suggest for a data storage device, based on performance measurements of each head in a sample number of storage devices at one or more read/write frequencies per zone: selecting a group of read/write frequencies, two or more read/write frequencies per zone, and for each zone allocating an integral number of heads to each of the frequencies for that zone to satisfy a constraint.

Re claim 65; the prior art of record, and in particular Hetzler et al (US 6,137,644 A), fails to teach or suggest a data storage device such that each storage media includes a sequence of concentric zones, such that the boundaries of at least a number of sequentially similarly situated zones on different storage media in that data storage device are at different radial locations, wherein sequentially similarly situated zones on all the storage media include the same number of concentric tracks.

Response to Arguments

6. Applicant's arguments filed December 13, 2004 with respect to claims 62-64 and 67 have been fully considered but they are not persuasive.

Applicant argues with respect to claim 62 that Hetzler does not require that the boundaries of radially similarly situated zones on all the storage media in that data storage device be at the same radial location. This argument is not persuasive. Hetzler

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discloses that adaptive formatting can be accomplished by varying ECC bytes, track pitch, or zone boundary locations (col. 9, lines 16-18) (emphasis added). Where Hetzler either varies ECC bytes or track pitch, there will be no variation in zone boundary locations. Where there is no variation in zone boundary locations, the similarly situated zones are at the same radial location since the nominal format of each of the surfaces of the storage media are identically formatted.

With respect to Applicant's arguments regarding claims 63-64 and 67, there is not sufficient detail in the arguments for a response at this time.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan I Davidson whose telephone number is (571) 272-


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7552. The examiner can normally be reached on Mondays, Tuesdays, and Thursdays from 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R Hudspeth, can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DID
Dan I Davidson
April 7, 2005


DAVID HUDSPETH
SUPERVISORY PATENT EXAMINER
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